

ELK UNIT MANAGEMENT PLAN
Elk Herd Unit #16
CENTRAL MOUNTAINS
August, 2016

BOUNDARY DESCRIPTION

Utah, Carbon, Emery, Sevier, and Sanpete counties – Boundary begins at the junction of US-6 and I-15 in Spanish Fork; southeast on US-6 to Price and SR-10; south on SR-10 to I-70; west on I-70 to US-50 in Salina; northwest on US-50 to I-15 in Scipio; north on I-15 to US-6 in Spanish Fork.

LAND OWNERSHIP

Approximately 116,829 of the private acres on this unit are managed as Cooperative Wildlife Management Units (CWMU) comprising portions of summer, winter, and yearlong ranges. There are 96,279 acres on the Manti subunit and 20,550 acres on the Nebo subunit.

Table 1a. RANGE AREA AND APPROXIMATE OWNERSHIP* SUBUNIT 16A (NEBO)

| Ownership | Spring/Fall Range | | Summer Range | | Winter Range | |
|--------------------------------------|-------------------|-----|--------------|-----|--------------|-----|
| | Area (acres) | % | Area (acres) | % | Area (acres) | % |
| Forest Service | 147970 | 84 | | | 36390 | 19 |
| Bureau of Land Management | 866 | <1 | | | 23144 | 12 |
| Utah State Institutional Trust Lands | 92 | <1 | | | 6021 | 3 |
| Private | 15438 | 9 | | | 101165 | 54 |
| Utah Division of Wildlife Resources | 11716 | 7 | | | 22372 | 12 |
| TOTAL | 176082 | 100 | 0 | 100 | 189092 | 100 |

Table 1b. RANGE AREA AND APPROXIMATE OWNERSHIP* SUBUNIT 16B AND C (MANTI)

| Ownership | Yearlong range | | Summer Range | | Winter Range | |
|--------------------------------------|----------------|-----|--------------|-----|--------------|-----|
| | Area (acres) | % | Area (acres) | % | Area (acres) | % |
| Bureau of Land Management | 8447 | 4 | 1054 | <1 | 111,282 | 16 |
| Private | 64292 | 30 | 100,262 | 19 | 165180 | 23 |
| Utah State Institutional Trust Lands | 1572 | 1 | 3539 | 1 | 85913 | 12 |
| Forest Service | 134218 | 62 | 429328 | 80 | 295502 | 42 |
| Utah State Parks | 78 | <1 | 17 | <1 | 386 | <1 |
| Utah Division of Wildlife Resources | 6269 | 3 | 2608 | <1 | 45733 | 6 |
| TOTAL | 214878 | 100 | 536808 | 100 | 703996 | 100 |

UNIT MANAGEMENT GOALS

Manage for a population of healthy animals capable of providing a broad range of recreational opportunities including hunting and viewing. Maintain an elk population consistent with available range resources that are in balance with other range uses such as livestock grazing and watershed protection. Consider impacts of the elk herd on other land uses and public interests including private property rights, agricultural crops and local economies.

Maintain and enhance existing elk habitat through vegetative manipulation, sound domestic grazing practices, and other management techniques that will meet habitat objectives. Minimize and mitigate any habitat losses, degradation, or fragmentation from oil and gas development, road construction, urban expansion, increased recreation or other land use impacts.

UNIT MANAGEMENT OBJECTIVES

Population

Population Objective 1: Maintain healthy elk populations at biologically and socially sustainable levels

Population Objective 2: Foster support among stakeholders for Utah's elk management program.

Population Objective 3: Achieve a proper distribution of elk on private and public lands.

Target Winter Herd Size – Maintain a wintering elk population of 13,450 elk (computer modeled estimate). This is the same objective as the previous plan. Elk will be distributed among the following sub-populations:

Manti – 12,000 elk

Nebo – 1,450 elk

The elk population objective will be evaluated each time the unit management plan is up for renewal. Desired elk population levels are guided by habitat conditions and public tolerance of elk.

Herd Composition – Maintain an average age of harvested bulls between 5.5-6.0 years old on the Manti Subunit and 6.5-7.0 on the Nebo Subunit.

Utilize general season spike-only hunting and limited entry any bull hunting to accomplish herd composition objectives. Utilize private lands only permits, depredation permits, and CWMU permits to increase antlerless harvest on private lands.

Habitat

The unit habitat objectives will follow the goals and objectives outlined in the statewide elk plan with the primary goal to "conserve and improve elk habitat throughout the state." This will be done by maintaining sufficient habitat to support elk herds at population objectives, reducing competition for forage between elk and livestock, and reducing adverse impacts to elk herds and elk habitat.

Unit habitat objectives will include;

- Enhance elk habitat on a minimum of 20,000 acres during the next 5 years through direct range improvements.
- Remove pinion-juniper encroachment into winter range sagebrush parks and summer and transitional range mountain brush communities. Approximately 2,000 acres per year will be targeted using primarily mechanical treatments.
- Cooperate with federal agencies to improve summer range forage production and forest health by actively managing vast acreages of beetle-killed conifer stands. This may include salvage logging, prescribed fire, and other techniques.

- At least 1,000 acres per year will be targeted.
- Coordinate with federal agencies to protect and enhance aspen communities on summer habitats. Management techniques that assure a diverse age structure of aspen communities will be utilized.
- Pursue protection of crucial habitats to development through conservation easements.
- Minimize and mitigate for habitat loss and displacement of elk as a result of coal, oil and gas development and urban expansion.
- Cooperate with livestock operators and federal agencies to improve range management practices in such a way to optimize both livestock and elk forage production and thus minimize conflicts.

CURRENT STATUS OF ELK MANAGEMENT

Population

The elk population on the Central Mountains, Manti subunit has fluctuated between 12,100 and 12,700 elk for the past 5 years and has been slightly above the population objective of 12,000 elk. The Nebo unit has shown an increasing trend from 1,100 elk in 2011 to 1,550 elk in 2015 which is above the objective of 1,450 elk. Antlerless harvest was initiated in 2012 in response to drought conditions, as well as to assist with rangeland recovery after the Seeley Wildfire. Antlerless harvest will continue to help manage a growing elk population. The Central Mountains' elk herd was last surveyed in January 2013. There were 25 bulls per 100 cows observed in aerial surveys. Average calf production based on summer preseason classification counts has been 51 calves per 100 cows over the past 5 years. Limited entry bull harvest on the unit has remained relatively stable with very minor permit changes. Spike harvest has been relatively stable as well. The average age of harvested limited entry bull has slowly declined but is still at the upper end of the objective of 5.5-6.0 year old bulls on the Manti unit (see tables 4a and 4b). The average age of bull harvested on the Nebo unit has remained below the objective of 6.5-7.0 for each of the past 5 years.

Table 4a. Trends in Harvest Central Mountains, Nebo Subunit

| YEAR | # of Elk on Unit | LE BULL HARVEST (public and CWMU) | GEN.SEASON SPIKE HARVEST. | AVE. AGE OF HARVESTED BULLS | ANTLERLESS HARVEST |
|------|------------------|-----------------------------------|---------------------------|-----------------------------|--------------------|
| 2011 | 1100 | 59 | 108 | 6.0 | 81 |
| 2012 | 1200 | 62 | 105 | 5.8 | 74 |
| 2013 | 1200 | 54 | 126 | 6.2 | 145 |
| 2014 | 1400 | 55 | 101 | 5.6 | 137 |
| 2015 | 1550 | 56 | 110 | 6.0 | 135 |

Table 4b. Trends in Harvest Central Mountains, Manti Subunit

| YEAR | # of Elk on Unit | LE BULL HARVEST (public and CWMU) | GEN.SEASON SPIKE HARVEST. | AVE. AGE OF HARVESTED BULLS | ANTLERLESS HARVEST |
|------|------------------|-----------------------------------|---------------------------|-----------------------------|--------------------|
| 2011 | 12500 | 330 | 380 | 6.1 | 615 |
| 2012 | 12700 | 320 | 501 | 6.2 | 1366 |
| 2013 | 12300 | 329 | 487 | 6.2 | 1232 |
| 2014 | 12500 | 341 | 414 | 6.1 | 1407 |
| 2015 | 12100 | 345 | 417 | 5.9 | 1320 |

Habitat

Habitat Conditions - There are approximately 25 permanent range trend study locations on the Central Mountains Manti Subunit that occur primarily on elk winter ranges and an additional 19 transects read on the Nebo Subunit. The Nebo subunit was last read in 2012. The Manti Subunit was read in 2014. Most range trend locations target winter ranges for deer but in many cases show trends in elk winter range productivity. Most range trend sites across the unit show declining trends in browse density and cover on low elevation deer ranges inhabited primarily by deer. Range Trend Study locations at mid elevations where elk typically winter show a better trend. The majority of range trend sites monitored on predominantly elk ranges were in fair to good condition with stable browse and herbaceous understory components. The average of all of the DCI scores on elk winter ranges suggest the winter elk habitat is in Fair to Good condition.

Cooperative DWR/BLM/USFS spring range rides have shown relatively stable to declining elk utilization patterns on winter ranges with some localized areas being over utilized. Declines in elk use can be attributed to a series of mild winters where elk could winter at higher elevations in concert with aggressive antlerless harvest that has reduced the overall population and changed migration patterns.

Elk summer habitat appears to be in stable condition. Domestic sheep graze much of the summer range on the unit. Although there may be localized competition between sheep and elk, stocking rates are well below historical averages. Summer ranges are also impacted by fairly high recreation use during the summer months. This tends to displace elk from portions of important summer range.

Factors limiting elk populations - Drought is the primary factor that impacts elk populations. Forage production and vigor is severely limited during drought years. Current and future oil and gas development as well as urban expansion will continue to fragment existing elk habitat and displace elk to less productive areas. Conflicts between elk and domestic livestock operators are also a primary limiting factor. This occurs in the form of crop depredation in farmlands as well as perceived competition for forage on rangelands. Elk numbers may be maintained at levels below the stated objective if excessive levels of crop depredation or forage consumption on private rangelands occur.

Habitat projects completed and proposed - Federal agencies, private landowners and the UDWR have cooperated on habitat improvement projects targeted at various wildlife species that have also benefited elk. See Tables 2 through 5..

Table 2 Completed Habitat Treatment Projects Benefitting Elk on the Central Mountains, Manti Unit, 2012 – 2016

| | |
|---|----------|
| Gordon Creek WMA Shrub Planting | 24.15 |
| Grimes Wash Pinyon/Juniper Removal | 224.93 |
| Burma Rd. Pinyon/Juniper Removal | 1,312.23 |
| Porphyry Bench Cliffrose Planting Phase I | 57.41 |
| Stump Flat Pinyon/Juniper Removal Project | 460.44 |
| Helper Benches Pinyon/Juniper Removal | 240.98 |
| Swasey Habitat Improvement/Hazardous Fuels Reduction Project Phase VI | 265.28 |
| Swasey Habitat Improvement/Hazardous Fuels Reduction Project Phase V | 854.54 |
| Swasey Habitat Improvement/Hazardous Fuels Reduction Project Phase 3 | 1,073.64 |
| Grimes Wash BLM Stewardship P/J Removal | 181.3 |
| Ford Ridge Fuels Reduction and Vegetation Restoration Project-Phase I | 134.58 |

| | |
|---|------------------|
| Swasey Wildlife Improvement/Hazardous Fuels Reduction Project Phase 2 | 686.16 |
| Price Canyon Recreation Area Fuels Treatment Project | 402.2 |
| North Skyline Seed and Noxious Weed Control | 60.56 |
| Wood Canyon Dixie Harrow | 22.19 |
| Swasey Habitat Improvement/Hazardous Fuels Reduction Project Phase IV | 518.49 |
| Gordon Creek Lower Fields Rehabilitation | 189.97 |
| Price Wet Meadows-Gordan Creek | 250.92 |
| Hiawatha/Miller Creek Bullhog Project | 287.18 |
| Scofield Mountain Home Erosion Control | 6.26 |
| Spirit of Conservation/Poison Springs Bench Lop and Scatter | 2,232.58 |
| North Springs Pinyon/Juniper Removal Phase 1 | 3,590.63 |
| Shinob Girls Camp Sagebrush Mowing | 24.46 |
| Seely Wildfire | 48050 |
| Hilltop Conservation Easement Bullhog | 320 |
| Bear Mountain CWMU Habitat Enhancement | 285.93 |
| 12 Mile Habitat Improvement | 302.11 |
| Dairy Fork Habitat Improvement | 702.27 |
| Canal Canyon Project | 402.94 |
| Total | 63,164.33 |

Table 3. Proposed Habitat Treatment Projects Benefitting Elk on the Central Mountains, Manti Unit, 2016-2021

| | |
|--|------------------|
| North Springs PJ Removal Phase II | 4,484.27 |
| Gordon Creek Tamarisk and Russian Olive Removal | 614.81 |
| Swasey Habitat Improvement/Hazardous Fuels Reduction Project Phase VII | 620.13 |
| Porphyry Bench Sagebrush Planting | 98.56 |
| Trail Mountain Rx | 5000 |
| Willow Creek Habitat Improvement | 621.93 |
| Spring City Habitat Improvement | 532.7 |
| Birdseye WMA Bullhog | 356.29 |
| Pigeon Hollow Winter Habitat Improvement | 764.86 |
| Mill Fork Wildlife Habitat Improvement | 553.11 |
| Total | 13,646.66 |

Table 4. Completed Habitat Treatment Projects Benefitting Elk on the Central Mountains, Nebo Unit, 2016-2021

| | |
|--|---------|
| Dry Canyon Chain Harrow | 59.89 |
| Wood Hollow Fire Bitterbrush Seeding | 91.05 |
| Thistle Creek Discretionary Seed Project | 49.02 |
| Wood Hollow Fire Chaining | 1558 |
| Wood Hollow Fire - Southwest Rehab | 7292.85 |
| Wood Hollow Fire - Southeast Rehab | 9294.74 |
| Wood Hollow Fire - North Rehab | 4212.47 |
| Wood Hollow Fire Rehab - BLM | 3728.27 |

| | |
|---|------------------|
| Maple Canyon WMA Habitat Improvement | 832.23 |
| Cedar Hills Restoration | 164.91 |
| Dry Canyon Wildlife Improvement | 246.05 |
| San Pitch Mountains Habitat Restoration Phase I | 852.67 |
| Total | 28,382.15 |

Table 5. Proposed Habitat Treatment Projects Benefitting Elk on the Central Mountains, Nebo Unit, 2016-2021

| | |
|--|-----------------|
| San Pitch Mountains Habitat Restoration Phase II | 852.67 |
| Levan Fire Rehab | 1554.68 |
| Total | 2,407.35 |

BARRIERS TO ACHIEVING UNIT MANAGEMENT OBJECTIVES

Population

- Public resistance to increasing numbers of bull hunting permits to reduce mean age of harvest.

Habitat

- Loss of winter range due to coal, oil and gas development and urban expansion.
- Drought impacts to rangeland forage condition and abundance.
- Loss of winter ranges and summer shrub habitats to pinion-juniper encroachment and shrub decadence.
- Large expanses of beetle-killed conifer stands are providing little elk habitat value and are susceptible to largescale fires.
- Competition for forage with domestic livestock on both summer and winter ranges.

Other Barriers

- Agricultural Depredation - elk on privately owned crops and rangelands may decrease public support for elk on this unit. Elk numbers may be maintained at levels below the stated objective if excessive levels of crop depredation or forage consumption on private rangelands occur.
- Weather Extremes - Periodic climatic extremes, especially severe winters or long term drought conditions, can cause great fluctuations in overall population size, sex ratios, and age structure.
- Other Mortality Causes – disease outbreaks, highway mortalities, poaching, etc.

STRATEGIES FOR REMOVING BARRIERS AND REACHING UNIT MANAGEMENT OBJECTIVES

Population

Monitoring

Population Size - The population is monitored using harvest data, aerial trend counts and classification, pre-season classification, and survival estimates.

Bull Age Structure - Monitor age class structure of the bull population through the use of annual pre-season ground classification and winter aerial classification. Average age of harvest will be determined by tooth age data from limited entry harvest.

Harvest - The primary means of monitoring harvest will be through the statewide uniform harvest survey and the mandatory harvest reporting for the limited entry hunts. Target population size will be maintained through the use of antlerless harvest using a variety of harvest methods and seasons.

Management Actions to Remove Population Barriers

- Target depredation hunts to address elk herds that habitually move into agricultural areas.
- Utilize Private-Lands-Only permits to reduce elk numbers on private lands.
- Cooperate with private landowners to fence haystacks and provide compensation when necessary in high winter depredation areas.
- Utilize antlerless hunts to address range concerns in specific areas.
- Utilize depredation bull hunts and extended archery season options if needed to address depredation and public safety issues by bulls according to DWR depredation policy.
- Cooperate with UDOT to pursue funding to reduce vehicle mortalities.

Habitat

Monitoring

- Continue to monitor permanent range trend studies throughout the winter range.
- Annually inspect rangeland vegetative community impacts and health through cooperative DWR/BLM habitat assessment surveys that include ocular field assessments, utilization transects, and range rides.
- Continue to develop and implement Habitat Management Plans for UDWR owned properties on the unit.

Management Actions to Remove Habitat Barriers

- Cooperate with federal agencies to establish natural fire policies that will allow wild fires to burn in beneficial and non-threatening areas to recover lost elk habitat.
- Continue to improve forage production on winter and other shrublands by aggressive pinion-juniper removal.
- Cooperate with federal agencies to assure a diverse age structure of aspen communities on summer habitats.
- Pursue conservation easements on critical parcels of private property to protect important elk habitat from development.
- Work with oil and gas interests to attempt to protect key areas and minimize or mitigate for losses due to development.
- Cooperate with federal agencies to develop access management plans to enhance elk habitat value. This may include seasonal road closures or vehicle restrictions.
- Involve livestock operators in spring range rides and assessments in an effort to keep good relationships and address any potential concerns about competition between livestock and elk.